IN THE CLAIMS

1. (Original) An integrated circuit assembly comprising:

an electronic chip; and

a conductive structure embedded in a material layer having a plurality of vaporization temperatures, the material layer is formed on the electronic chip and the conductive structure is coupled to the electronic chip.

2. (Original) The integrated circuit assembly of claim 1, wherein the electronic chip is a memory chip.

3. (Original) The integrated circuit assembly of claim 2, wherein the memory chip is a dynamic random access memory chip.

4. (Original) The integrated circuit assembly of claim 1, wherein the conductive structure is fabricated from copper.

5. (Original) The integrated circuit assembly of claim 1, wherein at least one of the plurality of vaporization temperatures is about 400 degrees centigrade.

6. (Original) An integrated circuit assembly comprising:

an electronic chip; and

a conductive structure embedded in a plurality of materials, each of the plurality of materials having a different vaporization temperature, the plurality of materials is formed on the electronic chip and the conductive structure is coupled to the electronic chip.

7. (Previously Canceled)

8. (Currently amended) The integrated circuit assembly of claim 6, wherein at least one of the plurality of ~~materials~~ material is silicon dioxide.

9. (Original) The integrated circuit assembly of claim 6, wherein at least one of the plurality of materials is carbon.

10. (Original) An integrated circuit assembly comprising:

an electronic chip; and

a conductive structure embedded in a material layer having a structural component having a structural vaporization temperature and a non-structural component having a non-structural vaporization temperature less than the structural vaporization temperature.

11. (Previously Canceled)

12. (Original) The integrated circuit assembly of claim 10, wherein the structural component is fabricated from silicon dioxide.

13. (Previously Canceled)

14. (Original) The integrated circuit assembly of claim 10, wherein the non-structural component is fabricated from carbon.

15. (Withdrawn) The integrated circuit assembly of claim 10, wherein the non-structural component is fabricated from a polymer.

16-17. (Previously Canceled)

18. (Original) An integrated circuit assembly comprising:

an electronic chip;

a support structure mounted on the electronic chip, the support structure having an interstice and a vaporization;

a material filling the interstice, the material having a vaporization temperature that is less than the vaporization temperature of the support structure;

a connective structure mounted on the support structure; and

a conductive structure capable of coupling the electronic chip to the connective structure, the conductive structure embedded in the support structure and the material.

19. (Original) The integrated circuit assembly of claim 18, wherein the electronic chip is a dynamic random access memory chip.

20. (Original) The integrated circuit assembly of claim 18, wherein the support structure is fabricated from silicon dioxide.

21. (Original) The integrated circuit assembly of claim 18, wherein the support structure is a ribbed structure.

22. (Previously Amended) The integrated circuit assembly of claim 18, wherein the material is carbon.

23. (Original) The integrated circuit assembly of claim 18, wherein the connective structure is a controlled collapse chip connection (C4) structure.

24-30. (Previously Canceled)

31. (Original) An integrated circuit assembly comprising:

an electronic chip; and

a post structure mounted on the electronic chip and capable of protecting an air-bridge structure and supporting a C4 structure.

32. (Withdrawn) The integrated circuit assembly of claim 31, wherein the post structure is fabricated from carbon.

33. (Original) The integrated circuit assembly of claim 31, wherein the post structure is mounted on an insulating base formed on the electronic chip.

34. (Original) The integrated circuit assembly of claim 31, wherein the post structure is fabricated from an insulator.

35. (Previously Amended) The integrated circuit assembly of claim 34, wherein the insulator is silicon dioxide.

36. (Withdrawn) The integrated circuit assembly of claim 31, wherein the post structure is fabricated from a polymer.

37. (Previously Canceled)

38. (Original) An integrated circuit assembly comprising:

an electronic chip including a plurality of electronic devices;

a plurality of conductive segments capable of interconnecting the plurality of electronic devices, each of the plurality of conductive segments having a surface area in contact with a material having a dielectric constant of about 1;

a C4 connection coupled to the electronic chip through the plurality of conductive segments; and

a substrate coupled to the C4 connection.

39. (Original) The integrated circuit assembly of claim 38, wherein the integrated circuit assembly is hermetically sealed.

40. (Original) The integrated circuit assembly of claim 39, wherein the integrated circuit assembly is back filled with helium.

41. (Original) The integrated circuit assembly of claim 39, wherein the integrated circuit assembly is back filled with a helium rich gas mixture.

42. (Original) The integrated circuit assembly of claim 38, wherein the material is air.

43. (Original) The integrated circuit assembly of claim 38, wherein the material is a foam.

44. (Original) The integrated circuit assembly of claim 38, further comprising a heat sink coupled to the electronic chip.

45. (Original) The integrated circuit assembly of claim 44, wherein the integrated circuit assembly is hermetically sealed.

46. (Original) The integrated circuit assembly of claim 45, wherein the integrated circuit assembly is back filled with helium.

47-74. (Previously Canceled)

75. (Reinstated-Formerly Claim #7) The integrated circuit assembly of claim 6, wherein the electronic chip is an analog signal processing chip.

76. (Reinstated-Formerly Claim #11) The integrated circuit assembly of claim 10, wherein the electronic chip is a digital signal processor.

77. (Reinstated-Formerly Claim #16) The integrated circuit assembly of claim 15, wherein the polymer is a photoresist.

78. (Reinstated-Formerly Claim #17) The integrated circuit assembly of claim 10, wherein the electronic chip is comprised of logic circuits.

79. (Reinstated-Formerly Claim #24) The integrated circuit assembly of claim 18, wherein the conductive structure is fabricated from a copper alloy.

80. (Reinstated-Formerly Claim #25) An integrated circuit assembly comprising:

an electronic chip; and

a conductive structure including a support structure, the conductive structure having a vaporization temperature and the conductive structure including the support structure is embedded in a material layer having a vaporization temperature

less than the vaporization temperature of the conductive structure, the material layer is formed on the electronic chip and the conductive structure is coupled to the electronic chip.

81. (Reinstated-Formerly Claim #26) The integrated circuit assembly of claim 80, wherein the electronic chip is a microprocessor.

82. (Reinstated-Formerly Claim #27) An integrated circuit memory device comprising:

an electronic memory chip; and

a ribbed structure mounted on the electronic memory chip and capable of protecting an air-bridge structure and supporting a C4 structure.

83. (Reinstated-Formerly Claim #28) The integrated circuit assembly of claim 82, wherein the ribbed structure is fabricated from an inorganic insulator.

84. (Reinstated-Formerly Claim #29) The integrated circuit assembly of claim 82, wherein the ribbed structure is fabricated from an organic material.

85. (Reinstated-Formerly Claim #30) The integrated circuit assembly of claim 82, wherein the ribbed structure is fabricated from of a mix of organic and inorganic materials.

86. (Reinstated-Formerly Claim #37) The integrated circuit assembly of claim 36, wherein the polymer is polyimide

87. (Reinstated-Formerly Claim #47) A computer system comprising:

a processor;

a memory device having a plurality of circuit devices, the memory device coupled to the processor; and

an air-bridge structure and a support structure fabricated on the memory device, the air-bridge structure capable of coupling at least two of the plurality of circuit devices and the support structure capable of supporting the memory device mounted as a flip chip.

88. (Reinstated-Formerly Claim #48) The computer system of claim 87, wherein the air-bridge structure is embedded in a dielectric having a dielectric constant of about 1.

89. (Reinstated-Formerly Claim #49) The computer system of claim 87 wherein the support structure fabricated on the memory device is a ribbed support structure.

90. (New) An integrated circuit assembly comprising:

an electronic chip;

a material layer having a plurality of vaporization temperatures, wherein the material layer includes a support structure having a number of support members that are approximately the length of one of the sides of the electronic chip; and

a conductive structure embedded in the material layer, the material layer is formed on the electronic chip and the conductive structure is coupled to the electronic chip.

91. (New) An integrated circuit assembly comprising:

an electronic chip;

a plurality of material that includes a support structure having a number of support members that are approximately parallel to one of the sides of the electronic chip; and

a conductive structure embedded in the plurality of materials, each of the plurality of materials having a different vaporization temperature, the plurality of materials is formed on the electronic chip and the conductive structure is coupled to the electronic chip.

92. (New) An integrated circuit assembly comprising:

an electronic chip; and

a conductive structure embedded in a material layer having a structural component having a structural vaporization temperature and a non-structural component having a non-structural vaporization temperature less than the structural vaporization temperature, wherein the structure component has a number of support members that are approximately the length of one of the sides of the electronic chip and are approximately parallel to one of the sides of the electronic chip, wherein the number of support members are arranged to create a number of interstices.

93. (New) An integrated circuit assembly comprising:

an electronic chip;

a ribbed support structure mounted on the electronic chip, the ribbed support structure having a vaporization temperature, wherein the ribbed support structure comprises a number of support members, wherein the number of support members are parallel to one of the sides of the electronic chip and are approximately the length of the electronic chip, the number of support members arranged to create an interstice;

a material filling the interstice, the material having a vaporization temperature that is less than the vaporization temperature of the ribbed support structure;

a controlled collapse chip connection (C4) connective structure mounted on the ribbed support structure, wherein the C4 structure is to mount on a silicon substrate; and

a conductive structure capable of coupling the electronic chip to the connective structure, the conductive structure embedded in the ribbed support structure and the material.